

TUESDAY 8 MAY 2018

ZSL SCIENCE AND CONSERVATION EVENT

The Meeting Rooms, Zoological Society of London,
Regent's Park, London NW1 4RY

AGENDA

**A new era for shark conservation?
Protecting 'flat sharks', rays and angels**

Chaired by **Matthew Gollock**, Marine and Freshwater Programme Manager, ZSL

Receive the following communications:

Ali Hood, Director of Conservation, Shark Trust

Putting the spotlight on flat sharks

**Joanna Barker, Marine and Freshwater Project Manager, ZSL
and Co-founder of the Angel Shark Project**

Scaling up angel shark conservation through action planning, research and engagement

Stuart J Hetherington, Centre for Environment, Fisheries and Aquaculture Science (Cefas)

*Can fisher-led research inform future management of common skate (*Dipturus batis* complex)*

ABSTRACTS

A new era for shark conservation? Protecting 'flat sharks', rays and angels

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Putting the spotlight on flat sharks

Ali Hood, Director of Conservation, Shark Trust

Headlines heralding catastrophic declines in the diversity of plants and animals surround us. Decision makers struggle to prioritise conservation actions, and there's a risk that the public could become numb to wildlife's plight. For chondrichthyan fishes (sharks, rays and chimaera) the story is especially sobering. Published in 2014, the first systematic analysis of over 1,100 species established that 25% are threatened according to IUCN Red List criteria. The analysis concluded that chondrichthyan extinction risk is substantially higher than for most other vertebrates. Six of the seven most threatened families are flat-sharks: five families of rays and the angel sharks.

Evolving from shark-like ancestors some 200 million years ago, the flat-sharks represent 26 families and over 630 species: the skates and rays, and the incredibly adapted shark-like rays such as sawfishes, guitarfishes and wedgefishes. Additionally there are 23 described species of angel sharks (ray-like sharks).

Retained for their meat, fins and gill rakers, flat-sharks increasingly dominate chondrichthyan landings, representing more than half the landings reported to at least family level for the past four decades. While no species have been driven to global extinction, at least 28 populations of sawfishes, skates and angel sharks are considered locally or regionally extinct. Declines are exacerbated for a number of flat-sharks due to larger body sizes and a coastal habitat preference, resulting in a greater exposure to fisheries.

This presentation will explore the remarkable diversity of species and the conservation landscape for flat-sharks. Highlighting the growing momentum across multiple fora which is swinging the spotlight on to these imperilled but fascinating species.

Based in the UK, **Ali Hood** is a marine conservation advocate with over 20 years' experience. Previously working for the Marine Biological Association of the United Kingdom, Ali has been at the Shark Trust since 2002. As the Director of Conservation for the Trust, and currently the Vice President of the European Elasmobranch Association, Ali has spent the last 15 years campaigning for effective

fisheries management, shark finning regulations and species protection at home and on the high-seas, while developing the Trust's conservation portfolio and reputation as an effective, pragmatic conservation organisation. A strong proponent of science-based advocacy and effective collaboration, Ali represents the Trust's interests as founder members of the Global Sharks and Rays Initiative and the Shark League for the Atlantic and Mediterranean. 'Flat-sharks' feature strongly in Ali's interests, and the Shark Trust's work, with the Trust pleased to represent those species considered by some as less charismatic.

Scaling up angel shark conservation through action planning, research and engagement

Joanna Barker, Marine and Freshwater Project Manager, ZSL, and Co-founder of the Angel Shark Project

Angel sharks are some of the most endangered fish in European waters. This family of elasmobranchs (sharks and rays) are particularly susceptible to the combined impacts of fishing and habitat degradation, due to their coastal location and biology (large, flat-bodied animals with low fecundity) (Dulvy *et al.* 2014). Three species of angel shark, Angelshark (*Squatina squatina*), Smoothback Angelshark (*S. oculata*) and Sawback Angelshark (*S. aculeata*) were once widespread throughout the Eastern Atlantic and Mediterranean Sea (Gordon *et al.* 2017). All three species are listed as Critically Endangered on the IUCN Red List of threatened species, with suspected declines of > 80% over the last 50 years (Ferretti *et al.* 2015).

The Canary Islands have been identified as a unique stronghold for one species, the Angelshark (*S. squatina*), where they are regularly sighted by divers and fishers. However, here too they are under significant threat from incidental catch in poorly-managed commercial and recreational fisheries; habitat degradation from pollution, coastal development and marine infrastructure; and disturbance by divers and beach users (Barker *et al.* 2016)

The Zoological Society of London (ZSL), Universidad de Las Palmas de Gran Canaria (ULPGC) and Zoological Research Museum Alexander Koenig (ZFMK) set up the collaborative [Angel Shark Project](#) (ASP) in 2013. The ASP is a multidisciplinary programme that collects ecological and population data whilst engaging with local communities, researchers and government to raise awareness and deliver conservation action. The ASP prioritised conservation work in the Canary Islands, as a first step in securing the future of the Angelsharks throughout its range, and have recently set up a new Angelshark focused project in Wales alongside Natural Resources Wales.

In 2016, the ASP and partners developed the Angelshark Action Plan for the Canary Islands and Eastern Atlantic & Mediterranean Angel Shark Conservation Strategy (for all three species), which outline and prioritise the key actions needed to be taken to overcome the major threats to angel shark conservation. These documents have built vital momentum to better protect and conserve angel sharks across their range and led to the development of the [Angel Shark Conservation Network](#).

This presentation will highlight key elements of the ASP, the importance of Action Planning for species conservation and highlight our plans to expand Angelshark conservation work in Wales.

Joanna Barker has worked in the Marine and Freshwater Conservation team here at ZSL for the last five years. During that time, she has managed a number of projects in the Thames Estuary, but has more recently led ZSL's work on European elasmobranch conservation. As part of this, she set up the Angel Shark Project alongside partners in the Canary Islands and Germany in 2013, with the overall

aim to safeguard the future of Critically Endangered angel sharks in the Eastern Atlantic and Mediterranean Sea. Before ZSL, Joanna studied at the University of Oxford and University of York.

Stuart J Hetherington, Centre for Environment, Fisheries and Aquaculture Science (Cefas)

*Can fisher-led research inform future management of common skate (*Dipturus batis* complex)*

Once thought to be a single species, common skate (*Dipturus batis* complex) is now considered to comprise of two separate species, the larger bodied flapper skate *Dipturus intermedius* and the smaller bodied blue skate *Dipturus batis*, referred to as the common skate complex. The two separate species are yet to be formally recognised by the International Commission for Zoological Nomenclature (ICZN). It is thought that the population of blue skate extends over a large area of the continental shelf, extending from the Isles of Scilly, west and south west of the British Isles.

In Celtic Sea waters, commercial fishermen can have a high by-catch (unintended capture) of a diverse variety of shark, skate and ray species that supplement commercial landings. Fishermen within this region consider populations of common skate to be locally and/or seasonally common. However, with little scientific information available to support this regional knowledge, and with increasing conservation concerns, in 2009 precautionary management measures were put in place to list common skate as a Prohibited Species. This listing means that common skate can no longer be targeted or landed but are still caught as the interaction between fishermen and common skate continues.

Drawing on experience of fisher-led research in the South-west of the UK since 2011, we highlight a fishery-dependant by-catch and biological data collection programme conducted by a research collaboration between the fishing industry, Cefas, the Department for Environment, Food and Rural Affairs (Defra), the Marine Management Organisation (MMO), the Shark Trust and the Muséum National d'Histoire Naturelle. This collaboration has been fundamental in understanding taxonomical differences between the two species of common skate, particularly in juveniles, spatial abundance, size distribution, together with behaviour and movement patterns. In the event that the two separate species are formally recognised, the information yielded from this collaborative programme will be useful to inform decisions on alternative management strategies for the species.

Co-authors:

Stuart J Hetherington and Victoria Bendall, Centre for Environment, Fisheries and Aquaculture Science (Cefas); Thomas Barreau, Station de biologie du Muséum National d'Histoire Naturelle; Paul Nelson, Marine Management Organisation; John Richardson, Shark Trust; Rose Nicholson, Centre for Environment, Fisheries and Aquaculture Science (Cefas); Sarah Jones and Jamie Rendell, Department for Environment Food & Rural Affairs

Stuart Hetherington is a senior marine biologist at Cefas and a specialist tagging operative with experience of deploying of over 600 electronic tags on a range of marine fish species. His current research relates to by-catch, discard survival, movement and distribution of data-deficient species of sharks, skates and rays, of both political and conservation interest, such as common skate and spurdog. Rather than the more traditional approaches of fisheries science, Stuart invests his time in collaborative research between fishermen, scientists and other stakeholders using novel approaches such as electronic tagging and CCTV aboard fishing vessels to collect information, building an evidence base to inform policy.

Chair: Matthew Gollock, Marine and Freshwater Programme Manager, ZSL

Matthew Gollock is the Marine and Freshwater Programme Manager at ZSL, and has over 20 years' experience researching and conserving aquatic species. He is interested in migratory species - particularly elasmobranchs and anguillid eels – and the management and policy mechanisms required to conserve their unique life histories.

UCL Lunch Hour Lectures on Tour at London Zoo

Thursday 10 May 2018, 12.30 – 2pm

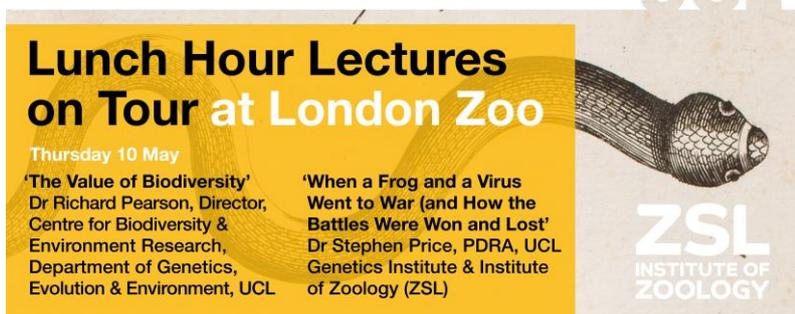
Lunchtime talks at ZSL (additional dates 17th and 24th May)

Talks by

Dr Richard Pearson, Director, Centre for Biodiversity & Environment Research, Department of Genetics, Evolution & Environment, UCL

Dr Stephen Price, PDRA, UCL Genetics Institute & Institute of Zoology, ZSL

LUNCH HOUR LECTURES



The poster features a yellow background with a large, stylized illustration of a snake's head on the right. The text is arranged in a clean, modern font. At the top right, the UCL logo is visible. The main title 'Lunch Hour Lectures on Tour at London Zoo' is prominently displayed in white and black. Below the title, the date 'Thursday 10 May' is noted. Two lecture titles are listed: 'The Value of Biodiversity' by Dr Richard Pearson and 'When a Frog and a Virus Went to War (and How the Battles Were Won and Lost)' by Dr Stephen Price. The ZSL Institute of Zoology logo is at the bottom right.

REGISTER

www.zsl.org/science/whats-on/the-value-of-biodiversity-and-when-a-frog-and-a-virus-went-to-war-and-how-the

Stamford Raffles Lecture 2018: Collaborators & con-artists: coevolution as an engine of biodiversity

by Claire Spottiswoode, University of Cape Town and University of Cambridge

Tuesday 12 June 2018, 6.30pm - 9.30pm

Ever since Darwin's wonderful image of a tangled bank of life, we've known that interactions between different species are a powerful force in evolution. Claire Spottiswoode will use African birds as a window into coevolution, showing how it can generate beautiful adaptations and help power the diversification of life.



BOOK TICKETS

www.zsl.org/science/whats-on/stamford-raffles-lecture-2018

Wildlife and well-being in urban landscapes Science and Conservation Event

Tuesday 10 July 2018, 6.00pm – 7.45pm

Nearly half of the world's population lives in urban environments and this is projected to increase in future. This meeting will focus on urban wildlife, including pollinators, a local hedgehog population and urban citizen-science projects, as well as discussing potential linkages between human well-being, physical health and urban ecology.



FIND OUT MORE

www.zsl.org/science/whats-on/wildlife-and-well-being-in-urban-landscapes